LPDES PERMIT NO. LA0046361 (Agency Interest No. 3263)

LPDES FACT SHEET and RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM (LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. Company/Facility Name: Taminco Higher Amines, Inc.
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II. Issuing Office: Louisiana Department of Environmental Quality (LDEQ)
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Date Prepared: March 21, 2008

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.4901, 4903, and 2301.F.

IV. Permit Action/Status:

A. Reason For Permit Action:

Proposed reissuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46.

In order to ease the transition from NPDES to LPDES permits, dual regulatory references are provided where applicable. The LAC references are the legal references while the 40 CFR references are presented for informational purposes

only. In most cases, LAC language is based on and is identical to the 40 CFR language. 40 CFR Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903 and will not have dual references. In addition, state standards (LAC 33:IX. Chapter 11) will not have dual references.

B. LPDES permit: Permit effective date: October 1, 2002
Permit expiration date: September 30, 2007

EPA has not retained enforcement authority.

C. Application submittal date: Application received on March 28, 2007, application addenda received on September 11, 2007, May 14, 2008 and August 20, 2008

V. Facility Information:

A. Location – 3790 Louisiana Highway 30, St. Gabriel, Iberville Parish (Latitude 30°15'07", Longitude 91°05'28").

B. Applicant Activity -

According to the application, Taminco Higher Amines, Inc., is an organic chemical manufacturing facility that manufactures a variety of higher amines including monoisopropylamine (MIPA), diisopropylamine (DIPA), monoethylamine (MEA), diethylamine (DEA), and triethylamine (TEA). As indicated in the May 14, 2008 application addendum, the facility proposes to manufacture the following new products: diethylhydroxylamine (DEHA), alkylalkanolamines (Amietols), and n-butylamines (Butyls). The facility also proposes a new drumming operation to handle a series of alkylamine products and derivatives that are native and non-native to the St. Gabriel Facility. As indicated in the August 20, 2008 application addendum supplement No.1, the St. Gabriel facility proposes to expand its Amietols manufacturing unit to produce specialty Ethoxylates.

The Taminco facility also treats and discharges wastewaters from an adjoining facility (Balchem) which manufactures choline chloride. Process wastewater, process area stormwater from unloading/loading areas, and sanitary wastewater from Balchem are collected in Tank 220 prior to being transferred to the Taminco wastewater treatment system. Utility wastewater (cooling tower blowdown and boiler blowdown) from Balchem is discharged into Taminco's firewater lagoon. Effluent from the firewater lagoon is discharged to the Mississippi River via Outfall 001 of Taminco's LPDES permit.

C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

Guidelines	Reference
Organic Chemicals, Plastics, and Synthetic Fibers	40 CFR 414, Subparts G, H, and I

Other sources of technology based limits:

- LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)
- Best Professional Judgement
- Hydrostatic Test Wastewaters LPDES General Permit (LAG670000)

D. Fee Rate -
1. Fee Rating Facility Type: Major
2. Complexity Type: VI
3. Wastewater Type: II
4. SIC code: 2869

E. Continuous Facility Effluent Flow - 0.569 MGD (30-day max)

VI. Receiving Waters: Mississippi River

Mississippi River:

A. TSS (15%), mg/L: 32.0 mg/l*
B. Average Hardness, mg/L $CaCO_3$: 153.4 mg/l*
C. Critical Flow, cfs: 141,955 *
D. Mixing Zone Fraction: 1/3 *
E. Harmonic Mean Flow, cfs: 366,748*
F. River Basin: Mississippi River, Segment No.: 070301
G. Designated Uses: primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply

* Stream Data information based upon the following: Water Quality Management Plan, Volume 5A, 1994; LAC 33:IX Chapter 11, and from recommendations from the Engineering Section. Hardness and 15% TSS data come from the monitoring station #319 on the Mississippi River listed in Hardness and TSS Data for All LDEQ Ambient Stations for the Period of Record as of March 1998, LeBlanc.

VII. Outfall Information:

Outfall 001

A. Type of wastewater – The continuous discharge of treated process wastewaters, process area stormwater, utility wastewater (consisting of but not limited to cooling tower blowdown, boiler blowdown, RO reject water, membrane washwater, and filter backwash), and sanitary wastewater. Discharge from the outfall includes the following wastewaters from Balchem: process wastewaters, cooling tower blowdown, boiler blowdown, sanitary wastewater and process area stormwater.

B. Location –At the point of discharge prior to the pumping station and prior to combining with the waters of the Mississippi River (Latitude 30°15'10", Longitude 91°05'40")

C. Treatment – Treatment of wastewater consists of:
- API separator
- sedimentation
- clarification
- dissolved air flotation (DAF)
- equalization/neutralization
- aerobic digestion (activated sludge)
- multimedia filtration
- aeration, clarification, chlorination (sanitary wastewater only)

D. Flow – Continuous: 0.569 MGD (30-Day Max)

Contributing flows:
- Process wastewater from Taminco – 0.209 MGD
- Process wastewater from Balchem – 0.031 MGD
- Cooling tower blowdown from Taminco – 0.179 MGD
- Treated sanitary wastewater from Taminco – 0.009 MGD
- Treated sanitary wastewater from Balchem – 0.002 MGD
- Process area stormwater from Taminco – 0.012 MGD
- Process area stormwater from Balchem – 0.002 MGD
- Firewater Lagoon – 0.125 MGD
  - CTB from Balchem
  - Boiler blowdown from Taminco and Balchem
  - RO reject, membrane wash and filter backwash from Taminco

E. Receiving waters – Mississippi River

F. Basin and segment – Mississippi River Basin, Segment 070301

G. Effluent data – See Appendix C

Outfall 002

A. Type of wastewater – The intermittent discharge of non-process area stormwater, and fire protection/safety shower/eyewash station water

B. Location – At the point of discharge prior to combining with the waters of the Mississippi River (Latitude 30°15'08", Longitude 91°05'43")

C. Treatment – None

D. Flow – Intermittent and variable, estimated 30-Day Max flow is 0.183 MGD

E. Receiving waters – Mississippi River

F. Basin and segment – Mississippi River Basin, Segment 070301

G. Effluent data – See Appendix C

Outfall 102

A. Type of wastewater – The intermittent discharge of hydrostatic test waters

B. Location – At the point of discharge from the vessel being tested prior to mixing with the waters of Outfall 002

C. Treatment – None

D. Flow – Intermittent flow is variable

E. Receiving waters – to Outfall 002 thence to the Mississippi River

F. Basin and segment – Mississippi River Basin, Segment 070301

VIII. Proposed Permit Limits and Rationale:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. PERMIT CHANGES

1. Outfall 001 – Mass limitations have increased based upon new flow information provided in the August 20, 2008 application addendum supplement.

2. Outfalls 001, 002 – Phosphorus monitoring from the previous permit has been removed. This pollutant was added to the previous permit because at the time, phosphorus was a stream impairment listed on the 305(b) report. Since that time, the receiving waterbody segment (070301) has been delisted.

3. Outfall 001 – The biomonitoring dilution series has changed based upon new flow information.

4. Outfall 001 - In accordance with 40 CFR 136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants), the sample type for Phenol has been changed to Grab.

5. Outfall 102 – This outfall has been added to the permit based upon current office practices, and as per request of the permittee.

6. The facility's name has changed to Taminco Higher Amines since issuance of the previous permit.

7. Outfall 002 – TOC monitoring has been reduced to 1/ 2 months in accordance with the USEPA Memorandum "Interim Guidance for Performance-Based Reductions of NPDES Permit Monitoring Frequencies".

8. Outfall 002 – Oil & Grease monitoring has been added to the permit in accordance with current office practices for monitoring stormwater runoff.

9. Outfall 001 – The monitoring frequency for Ammonia has been reduced to 1/quarter.

B. REQUESTED CHANGES

1. The permittee requested that this Office remove phosphorus monitoring from the permit based upon the receiving stream's current 303(d) status. Since the receiving stream is no longer listed as impaired for nutrients, this request has been granted.

2. The permittee requested monitoring frequency reductions at Outfall 001 and 002 based upon the USEPA Memorandum "Interim Guidance for Performance-Based Reductions of NPDES Permit Monitoring Frequencies". This Office has denied monitoring frequency reductions for $CBOD_5$, TSS and COD limited at Outfall 001. Upon issuance of a renewed permit, Taminco proposes to begin manufacturing several new chemical products. Operation of these new units will cause an increase in the flow from Outfall 001, and due to the proposed manufacturing of new chemicals, may result in changes to the quality of the wastewater discharged from the facility. These facility changes could directly affect the facility's CBOD, TSS and COD loading. Therefore, this Office has determined that the permittee must operate under the current monitoring frequencies for $CBOD_5$, TSS and COD at least one permit cycle prior to consideration of any reduction. However, based upon review of the DMRs for Taminco, indicating a ratio of the long term monthly average to the monthly permit limit of less than 1%, this Office has determined that a monitoring frequency reduction for Ammonia is warranted. Therefore, this Office has reduced the monitoring frequency for Ammonia to 1/ 2 months. Additionally, as requested, this Office has reduced the monitoring frequency for TOC (at Outfall 002) from 1/week to 1/ 2 months.

3. The permittee requested that they be allowed to periodically use sulfuric acid in the drainage ditches in order to control pH. This Office has no objection to the use of sulfuric acid to control pH.

4. The permittee requested that the standard permit limits from the hydrostatic test water general permit (LAG670000) be applied for the monitoring of hydrostatic test water discharges from the testing of tanks, pipes, etc. In accordance with the permittee's request, this Office has established Internal Outfall 102 for the discharge of hydrostatic test waters.

C. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgement) in the absence of guidelines, or on a combination of the two. The following is a rationale for the limitations established in the permit.

Taminco Higher Amines, Inc. is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Manufacturing Operation	Guideline
Organic Chemicals, Plastics, and Synthetic Fibers	40 CFR 414, Subparts G, H, and I

WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations and/or specific analytical results from the permittee's application were screened against state water quality numerical standard based limitations by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008.

In accordance with 40 CFR 122.44(d)(I)/LAC 33:IX.2707.D.1., the existing discharge was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Calculations, results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limitations:

None

Minimum quantification levels (MQLs) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. They are also listed in Part II of the permit.

To further ensure compliance with 40 CFR 122.44(d)(I), whole effluent toxicity testing has been established for Outfall 001 (See Section VIII.E below).

Below is a summary of the proposed effluent limitations:

Outfall 001 – The continuous discharge of treated process wastewaters, process area stormwater, utility wastewater (consisting of cooling tower blowdown, boiler blowdown, RO reject water, membrane washwater, and filter backwash), and sanitary wastewater

Parameter	Monthly Avg. (lbs/day)	Daily Max. (lbs/day)	Frequency	Sample Type
Flow-MGD	Report	Report	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Number of Events >60 Minutes	---	0(*1)	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Monthly Total Accumulated Time in Minutes	---	446(*1)	Continuous	Recorder
pH Min/Max Values (Standard Units)	Report (Min)	Report (Max)	Continuous	Recorder
$CBOD_5$	91	233	3/week	24-hr. Composite
TSS	160	424	3/week	24-hr. Composite
COD	1253	2302	1/week	24-hr. Composite
Ammonia (as N)	731	1462	1/ 2 months	24-hr. Composite
VOLATILE COMPOUNDS				
Acrylonitrile	0.20	0.51	1/year	24-hr. Composite
Benzene	0.08	0.29	1/year	24-hr. Composite
Carbon Tetrachloride	0.04	0.08	1/year	24-hr. Composite
Chlorobenzene	0.03	0.06	1/year	24-hr. Composite
Chloroethane	0.22	0.57	1/year	24-hr. Composite
Chloroform	0.04	0.10	1/year	24-hr. Composite
1,1-Dichloroethane	0.05	0.12	1/year	24-hr. Composite
1,2-Dichloroethane	0.14	0.45	1/year	24-hr. Composite
1,1-Dichloroethylene	0.03	0.05	1/year	24-hr. Composite
1,2-trans-Dichloroethylene	0.04	0.11	1/year	24-hr. Composite
1,2-Dichloropropane	0.32	0.49	1/year	24-hr. Composite
1,3-Dichloropropylene	0.06	0.09	1/year	24-hr. Composite

Ethylbenzene	0.07	0.23	1/year	24-hr. Composite
Methyl Chloride	0.18	0.40	1/year	24-hr. Composite
Methylene Chloride	0.08	0.19	1/year	24-hr. Composite
Tetrachloroethylene	0.05	0.12	1/year	24-hr. Composite
Toluene	0.06	0.17	1/year	24-hr. Composite
1,1,1-Trichloroethane	0.04	0.11	1/year	24-hr. Composite
1,1,2-Trichloroethane	0.04	0.11	1/year	24-hr. Composite
Trichloroethylene	0.04	0.11	1/year	24-hr. Composite
Vinyl Chloride	0.22	0.57	1/year	24-hr. Composite
ACID COMPOUNDS				
2-Chlorophenol	0.07	0.21	1/year	24-hr. Composite
2,4-Dichlorophenol	0.08	0.24	1/year	24-hr. Composite
2,4-Dimethylphenol	0.04	0.08	1/year	24-hr. Composite
4,6-Dinitro-o-Cresol	0.17	0.59	1/year	24-hr. Composite
2,4-Dinitrophenol	0.15	0.26	1/year	24-hr. Composite
2-Nitrophenol	0.09	0.15	1/year	24-hr. Composite
4-Nitrophenol	0.15	0.26	1/year	24-hr. Composite
Phenol	0.03	0.06	1/year	Grab
BASE NEUTRAL COMPOUNDS				
Acenaphthene	0.05	0.12	1/year	24-hr. Composite
Acenaphthylene	0.05	0.12	1/year	24-hr. Composite
Anthracene	0.05	0.12	1/year	24-hr. Composite
Benzo(a)anthracene	0.05	0.12	1/year	24-hr. Composite
Benzo(a)pyrene	0.05	0.13	1/year	24-hr. Composite
3,4-Benzofluoranthene	0.05	0.13	1/year	24-hr. Composite
Benzo(k)fluoranthene	0.05	0.12	1/year	24-hr. Composite
Bis(2-ethylhexyl) phthalate	0.22	0.59	1/year	24-hr. Composite
Chrysene	0.05	0.12	1/year	24-hr. Composite
1,2-Dichlorobenzene	0.16	0.35	1/year	24-hr. Composite
1,3-Dichlorobenzene	0.07	0.09	1/year	24-hr. Composite
1,4-Dichlorobenzene	0.03	0.06	1/year	24-hr. Composite
Diethyl phthalate	0.17	0.43	1/year	24-hr. Composite
Dimethyl phthalate	0.04	0.10	1/year	24-hr. Composite
Di-n-butyl phthalate	0.06	0.12	1/year	24-hr. Composite
2,4-Dinitrotoluene	0.24	0.60	1/year	24-hr. Composite
2,6-Dinitrotoluene	0.54	1.36	1/year	24-hr. Composite
Fluoranthene	0.05	0.14	1/year	24-hr. Composite
Fluorene	0.05	0.12	1/year	24-hr. Composite
Hexachlorobenzene	0.03	0.06	1/year	24-hr. Composite
Hexachlorobutadiene	0.04	0.10	1/year	24-hr. Composite
Hexachloroethane	0.04	0.11	1/year	24-hr. Composite
Naphthalene	0.05	0.12	1/year	24-hr. Composite
Nitrobenzene	0.06	0.14	1/year	24-hr. Composite
Phenanthrene	0.05	0.12	1/year	24-hr. Composite
Pyrene	0.05	0.14	1/year	24-hr. Composite
1,2,4-Trichlorobenzene	0.14	0.30	1/year	24-hr. Composite
Whole Effluent Toxicity Testing	---	---	1/year	24 hr. Composite

(*1) The pH shall be within the range of 6.0 – 9.0 standard units at all times subject to continuous monitoring pH range excursion provisions. Where a permittee continuously measures the pH of wastewater as a requirement or option in an LPDES permit, the permittee shall maintain the pH of such wastewater within the range set forth in the permit, except that excursions from the range are permitted, provided:

1. The total time during which the pH values are outside the required range of pH values shall not exceed 446 minutes in any calendar month; and
2. No individual excursion from the range of pH values shall exceed 60 minutes.

EFFLUENT LIMITATIONS BASIS for Outfall 001:

Flow: The requirement to report flow is based upon LAC 33:IX.2707.I.1.b. and the previous permit.

$CBOD_5$, TSS, toxic organics and pH: Limitations are based upon 40 CFR 414 Subparts G, H, and I; and BPJ. As established in the previous permit, because Ammonia is used in the process, $CBOD_5$ is used in the permit instead of BOD_5. See Appendix A for more detail on calculation of the limitations.

Ammonia: The permit establishes BPJ allocations for ammonia because ammonia is used in Taminco's process. The BPJ concentrations that were established in the facility's previous permits dating back to the 1980's were determined to be BAT. These BPJ concentrations have been retained in the draft permit. The allowances grant an average concentration of 154 mg/L, and a maximum concentration of 308 mg/L. See Appendix A for detail on the mass calculation of these limitations.

COD: Mass limitations in the permit were based upon the concentrations established in the previous permit. These BPJ concentrations that were established in the facility's previous permits dating back to the 1980's were determined to be BAT. These BPJ concentrations have been retained in the draft permit. The allowances grant an average concentration of 264 mg/l, and a maximum concentration of 485 mg/l. See Appendix A for more detail on the mass calculation of the limitations.

Whole Effluent Toxicity Testing: See Section E below for justification of requirements.

SITE-SPECIFIC CONSIDERATIONS:

As established in the previous permit, the draft permit establishes BPJ allocations for CBOD and TSS loadings for utility wastewaters and sanitary wastewaters that are included as part of the process wastewater stream discharged at Outfall 001. For the utility wastewaters, $CBOD_5$ allowances grant an average concentration of 5 mg/L, and a maximum concentration of 10 mg/L; TSS allowances grant an average concentration of 20 mg/L, and a maximum concentration of 30 mg/L. For sanitary wastewaters, these allowances grant an average concentration of 30 mg/L and a maximum concentration of 45 mg/L for both $CBOD_5$, and TSS. See Appendix A for detail on the calculations.

The allowable utility wastewater concentrations are based upon BPJ and the previous permit. The sanitary wastewater concentrations are based upon the previous permit and secondary treatment standards.

Outfall 002 - Non-process area stormwater, and fire protection/safety shower/eyewash station water

Parameter	Monthly Avg. (mg/l)	Daily Max. (mg/l)	Frequency	Sample Type
Flow-MGD	Report	Report	1/week	Estimate
TOC	---	50	1/ 2 months	Grab
Oil & Grease	---	15	1/quarter	Grab
pH Min/Max Values (Standard Units)	6.0 (Min)	9.0 (Max)	1/day	Grab

EFFLUENT LIMITATIONS BASIS for Outfall 002:

Flow: The requirement to report flow is based upon LAC 33:IX.2707.I.1.b.

TOC and Oil & Grease: Limitations are based upon the previous permit (TOC only) and LDEQ's stormwater guidance [letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)].

pH: Requirements are based upon the previous permit and LAC 33:IX.1113.C.1.

OUTFALL 102 - Hydrostatic test wastewater.

Parameter	Monthly Avg. (mg/l)	Daily Max. (mg/l)	Frequency	Sample Type
Flow-MGD	Report	Report	1/discharge	Estimate
TSS (*1 & 2)	---	90	1/discharge	Grab
Oil & Grease (*2)	---	15	1/discharge	Grab
TOC (*2)	---	50	1/discharge	Grab
Benzene (*2)	---	50 µg/l	1/discharge	Grab
Total BTEX (*2 & 3)	---	250 µg/l	1/discharge	Grab
Total Lead (*2)	---	50 µg/l	1/discharge	Grab
pH (standard units)	6.0 (min)	9.0 (max)	1/discharge	Grab

(*1) The background concentration of Total Suspended Solids (TSS) will be allowed in the discharge if the effluent is being returned to the same water source from which the intake water was obtained. In these cases, the permit limitations will be 90 mg/L plus the

concentration of TSS in the intake water. The TSS concentration of the intake water shall be reported on the Discharge Monitoring Report (DMR) along with the concentration of TSS in the effluent.

(*2) Total Organic Carbon (TOC) shall be measured on discharges from vessels which have previously been in service; i.e., those vessels which are not new. Benzene, Total BTEX, and Total Lead shall be measured on discharges from pipe or vessels which have been used for the storage or transportation of liquid or gaseous petroleum hydrocarbons. Accordingly, Flow, TSS, Oil & Grease and pH are the only testing requirements for new pipe or vessels.

(*3) BTEX shall be measured as the sum of benzene, toluene, ethylbenzene, and total xylene (including ortho-, meta-, and para-xylene) as quantified by the latest approved EPA method at 40 CFR 136.

EFFLUENT LIMITATIONS BASIS for Outfall 102:

Flow: The requirement to report flow is based upon LAC 33:IX.2707.I.1.b.

TSS, TOC, Oil & Grease, Benzene, Total BTEX, Total Lead and pH: Limitations are based upon the Hydrostatic General Permit (LAG670000)

D. MONITORING FREQUENCIES

All monitoring frequencies are based upon the previous permit (with exception of ammonia monitoring at Outfall 001 and TOC monitoring at Outfall 002). This Office has reduced the monitoring frequency for TOC (at Outfall 002) from 1/week to 1/ 2 months in accordance with the USEPA Memorandum "Interim Guidance for Performance-Based Reductions of NPDES Permit Monitoring Frequencies". In accordance with BPJ, the monitoring frequency for Ammonia (Outfall 001) has reduced from 1/week to 1/quarter. Whole Effluent Toxicity testing frequency is based upon recommendations from the Municipal and General Water Permits Section (see Appendix D).

E. BIOMONITORING REQUIREMENTS

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality

characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit for Outfall 001 are as follows:

TOXICITY TESTS	FREQUENCY
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 48-Hour Acute, Pimephales promelas	1/year
NOEC, Value [%], Lethality, Static Renewal, 48-Hour Acute, Pimephales promelas	1/year
NOEC, Value [%] Coefficient of Variation, Static Renewal 48-Hour Acute, Pimephales promelas	1/year
NOEC, Pass/Fail [0/1], Lethality, Static Renewal 48-Hour Acute, Daphnia pulex	1/year
NOEC, Value [%], Lethality, Static Renewal 48-Hour Acute Daphnia pulex	1/year
NOEC, Value [%] Coefficient of Variation, Static Renewal 48-Hour Acute, Daphnia pulex	1/year

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715/40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to this Office. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. The additional effluent concentrations shall be 0.0078%, 0.011%, 0.014%, 0.019%, and 0.025% effluent. The biomonitoring critical dilution is defined as 0.019% effluent.

IX. Compliance History/DMR Review:

As of August 28, 2008, there are no pending enforcements actions on file.

DMR Review (excursions for the period January 2005 – August 2008):

Date	Parameter	Outfall	Reported (lbs/day)	Permit Limit (lbs/day)
6/30/05	$CBOD_5$	001	39 : 167	61 : 156
6/30/07	$CBOD_5$	001	64 : 618	61 : 156

X. Endangered Species:

The receiving waterbodies for Taminco Higher Amines, Inc. are Subsegment 070301 of the Mississippi River Basin. Segment 070301 of the Mississippi River Basin has been identified by the U.S. Fish and Wildlife Service (FWS) as habitat for the Pallid Sturgeon, which is listed as a threatened or endangered species. This draft permit has been submitted to the FWS for review in accordance with a letter dated October 24, 2007 from Boggs (FWS) to Brown (LDEQ). As set forth in the Memorandum of Understanding between the LDEQ and the FWS, and after consultation with FWS, LDEQ has determined that the issuance of the LPDES permit is not likely to have an adverse effect upon the Pallid Sturgeon. Effluent limitations are established in the permit to ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. The more stringent of technology and water quality based limits (as applicable) have been applied to ensure maximum protection of the receiving water.

XI. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XII. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharges described in the application.

XIII. Variances:

No requests for variances have been received by this Office.

XIV. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

A public notice will be published in a local newspaper of general circulation and in the Office of Environmental Services Public Notice Mailing List.

XV. TMDL Waterbodies:

Taminco Higher Amines, Inc. discharges process wastewaters, utility wastewaters, stormwater, miscellaneous wastewaters and sanitary wastewaters to the Mississippi River (Segment 070301). Segment 070301 is not listed on LDEQ's Final 2006 303(d) List, as impaired, and to date no TMDLs have been established.

A reopener clause will be included in the permit to allow for the establishment of more stringent effluent limitations and requirements as imposed by any future TMDLs.

XVI. Stormwater Pollution Prevention Plan (SWP3) Requirements:

In accordance with LAC 33:IX.2707.I.3 and 4 [40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all stormwater discharges from the facility, either through permitted outfalls, through outfalls which are not listed in the permit or as sheet flow. The Part II condition requires implementation of a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit, along with other requirements. If the permittee maintains other plans that contain duplicative information, that plan could be incorporated by reference into the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of storm water associated with industrial activity, as defined at LAC 33:IX.2511.B.14 [40 CFR 122.26(b)(14)].